CLAIMS

WHAT IS CLAIMED IS:

1. A method for forming a balloon; comprising:

disposing a polymeric tubular product having an effective length with first and second ends within a mold;

applying internal pressure to the tubular product;

heating at least a portion of the tubular product to a first elevated temperature for a first predetermined period of time to form the tubular product into a balloon;

maintaining the temperature of the tubular product to a minimal temperature differential from the first temperature;

heating the tubular product to a second elevated temperature for a second predetermined period of time to heat set the formed balloon;

cooling down the tubular product to substantially ambient temperature;

removing the tubular product from the mold.

2. The method of Claim 1 wherein the temperature differential is less than about 100°C.

3. The method of Claim 1 wherein the temperature differential is less than about 50°C.

4. The method of Claim 1 wherein the temperature differential is less than about 20°C.

5. The method of Claim 1 wherein the first elevated temperature is greater than the glass transition temperature of the polymeric material forming the tubular product.

6. The method of Claim 5 wherein the first elevated temperature is at least 10°C greater than the glass transition temperature of the polymeric material forming the tubular product.

7. The method of Claim 6 wherein the first elevated temperature is at least 20°C greater than the glass transition temperature of the polymeric material forming the tubular product.

8. The method of Claim 7 wherein the first elevated temperature is at least 40°C greater than the glass transition temperature of the polymeric material forming the tubular product.

9. The method of Claim 5 wherein the first elevated temperature is less than the melting temperature of the polymeric material forming the tubular product.

10. The method of Claim 1 wherein the second elevated temperature is substantially equal to the first elevated temperature.

11. The method of Claim 1 wherein the second elevated temperature is greater than the first elevated temperature.

12. The method of Claim 11 wherein the second elevated temperature is sufficiently high to thermoset the polymeric material forming the tubular product.

13. A method for forming a balloon; comprising:

disposing a polymeric tubular product having an effective length with first and second ends within a mold;

applying internal pressure to the tubular product;

heating at least a portion of the tubular product to a first elevated temperature for a predetermined period of time to form the tubular product into a balloon;

heating the tubular product uniformly between the first and second ends to a second elevated temperature for a predetermined period of time to heat set the formed balloon;

cooling down the tubular product to substantially ambient temperature;

removing the tubular product from the mold.

14. The method of Claim 12 wherein the tubular product temperature difference between the first and second ends is less than about 30°C.

15. The method of Claim 14 wherein the tubular product temperature difference between the first and second ends is less than about 15°C.

16. The method of Claim 15 wherein the tubular product temperature difference between the first and second ends is less than about 10°C.

17. A method for forming a balloon; comprising:

disposing a polymeric tubular product having an effective length with first and second ends within a mold;

applying internal pressure to the tubular product;

heating at least a portion of the tubular product to a first elevated temperature with a first heating member for a

predetermined period of time to form the tubular product into a balloon;

heating the tubular product to a second elevated temperature with a second heating member having an effective length at least substantially the same as the effective length of the tubular product;

cooling down the tubular product to substantially ambient temperature;

removing the tubular product from the mold.

18. The method of Claim 17 wherein the first heating member applies heat to the tubular product as it traverses from one end of the tubular product to the other end.

19. The method of Claim 17 wherein the first heating member has an effective length at least substantially the same as the effective length of the tubular product.

20. The method of Claim 19 wherein the first heating member applies heat to the tubular product simultaneously across the effective length of the tubular product.

21. The method of Claim 17 wherein the second heating member applies heat to the tubular product as it traverses from one end of the tubular product to the other end.

22. The method of Claim 17 wherein the second heating member applies heat to the tubular product simultaneously across the effective length of the tubular product.

23. The method of Claim 17 wherein the first heating member and the second heating member are integral with one another.

24. The method of Claim 17 wherein the first heating member and the second heating member are on different heating heads.

25. The method of Claim 17 wherein the second elevated temperature is different from the first elevated temperature.

26. A medical balloon having a reduced radial shrinkage and reduced axial growth.

27. The balloon of Claim 26 wherein the radial shrinkage is less than about 10%.

28. The balloon of Claim 27 wherein the radial shrinkage is less than about 6%.

29. The balloon of Claim 28 wherein the radial shrinkage is less than about 4%.

30. The balloon of Claim 26 wherein the axial growth is less than about 10%.

31. The balloon of Claim 29 wherein the axial growth is less than about 6%.

32. The balloon of Claim 30 wherein the axial growth is less than about 4%.